



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,754	06/23/2003	Jack Wilbur Baldwin	13DVI3367-2	9506

6111 7590 11/08/2004

GENERAL ELECTRIC COMPANY  
ANDREW C HESS  
GE AIRCRAFT ENGINES  
ONE NEUMANN WAY M/D H17  
CINCINNATI, OH 452156301

EXAMINER

PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 11/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/601,754

Applicant(s)

BALDWIN ET AL.

Examiner

Andrew T Piziali

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-10 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed on 10/8/2004 has been entered. In an attempt to overcome the objection to the drawings, the applicant has submitted new Figure 7 illustrating a bundle of rods. In an attempt to overcome the objection to the specification, the applicant has amended the specification to describe a bundle of rods. Although new Figure 7 does illustrate a bundle of rods, and although the amendment to the specification includes a description of a bundle of rods, both the new Figure and the amendment to the specification introduce new matter. The original specification, including the original specification of the parent application, does not teach or suggest a bundle of rods. The bundle of rods limitation is new matter. The applicant introduced the new matter in the preliminary amendment filed on 6/23/2003. The applicant is reminded that the current application has been filed as a divisional. A later application for an independent or distinct invention, carved out of a pending application and disclosing and claiming only subject matter disclosed in the earlier or parent application, is known as a divisional application (see MPEP 201.06).

### *Drawings*

2. The drawings were received on 10/8/2004. The examiner does not accept these drawings. Figure 7 adds new matter. Specifically, Figure 7 shows a bundle rods. The original specification does not mention a bundle of rods.

### *Specification*

3. The amendment filed 10/8/2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new

Art Unit: 1771

matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows: The original disclosure does not mention a bundle of rods.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 8-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the original specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The applicant has amended original claim 8 such that the reinforcing members comprise "a bundle of rods." The original specification discloses that the reinforcing member may be a single rod or fiber or a bundle of fibers, sometimes referred to as filaments (see [0019] and original claims 5-6 and 10), but the specification does not mention "a bundle of rods."

Appropriate correction is required.

***Claim Rejections - 35 USC § 102/103***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1771

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 12 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 3,834,832 to Mallinder et al. (hereinafter referred to as Mallinder).

Mallinder discloses a fiber reinforced composite article, such as an airfoil for a gas turbine engine member, comprising a plurality of stacked layers of aligned carbon fibers, a plurality of unconnected spaced apart fastening means, such as stitches of glass or carbon fibers or metal pins for fastening the layers together, wherein the fastening means also reinforces the composite and extends through the layers, wherein each fiber layer is impregnated with a resin (see entire document including column 1, lines 1-58, column 2, lines 18-20, and claim 1).

9. Claim 12 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 5,733,404 to Freitas et al. (hereinafter referred to as Freitas).

Freitas discloses a fiber reinforced composite article comprising a plurality of stacked layers of first reinforcing fibers comprising a stack of layers and a plurality of unconnected spaced apart second reinforcing pins disposed into the article at an angle to the stack of layers wherein the second reinforcing pins are disposed beside the first reinforcing fibers and a substantially solid matrix is disposed about the first reinforcing fibers and the second reinforcing members (see entire document including Figures 1-4 and column 5, lines 8-55).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 3,834,832 to Mallinder in view of USPN 4,622,254 to Nishimura et al. (hereinafter referred to as Nishimura).

Mallinder discloses a fiber reinforced composite article, such as an airfoil for a gas turbine engine member, comprising a plurality of stacked layers of aligned carbon fibers, a plurality of unconnected spaced apart fastening means, such as stitches of glass or carbon fibers or metal pins for fastening the layers together, wherein the fastening means also reinforces the composite and extends through the layers, wherein each fiber layer is impregnated with a resin (see entire document including column 1, lines 1-58, column 2, lines 18-20, and claim 1).

Mallinder does not mention the use of a bundles of rods, but Nishimura teaches making a fiber reinforced composite by stacking a plurality of layers of glass or carbon fibers and then stitching the layers together with a yarn of glass or carbon fibers (see entire document including column 4, lines 19-44, column 5, lines 32-38, and column 6, lines 20-25). The yarn of Nishimura is a bundle of rods. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the fastening means of Mallinder from any suitable fastening material, such as a bundle of rods, as taught by Nishimura, with the expectation of

providing the desired fiber layer stitching and bonding and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

12. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,733,404 to Freitas in view of USPN 4,622,254 to Nishimura.

Regarding claims 8-10, Freitas discloses a fiber reinforced composite article comprising a plurality of stacked layers of first reinforcing fibers comprising a stack of layers and a plurality of unconnected spaced apart second reinforcing pins disposed into the article at an angle to the stack of layers wherein the second reinforcing pins are disposed beside the first reinforcing fibers and a substantially solid matrix is disposed about the first reinforcing fibers and the second reinforcing members (see entire document including Figures 1-4 and column 5, lines 8-55).

Freitas does not mention the use of a bundles of rods, but Nishimura teaches making a fiber reinforced composite by stacking a plurality of layers of glass or carbon fibers and then stitching the layers together with a yarn of glass or carbon fibers (see entire document including column 4, lines 19-44, column 5, lines 32-38, and column 6, lines 20-25). The yarn of Nishimura is a bundle of rods. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the reinforcing pins of Freitas from any suitable fastening material, such as a bundle of rods, as taught by Nishimura, with the expectation of providing the desired fiber layer stitching and bonding and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

Regarding claim 9, Freitas discloses that the first reinforcing fibers and the second reinforcing pins may comprise at least one material selected from the group consisting of carbon,

Art Unit: 1771

graphite, glass, and metal (column 3, lines 36-67, column 4, lines 1-14, and column 5, lines 56-65).

Regarding claim 10, Freitas discloses that the article may be used in aerospace applications (column 1, lines 17-22) such as an airfoil (Figures 10-16), wherein the first reinforcing fibers in a layer are substantially aligned with one another (see Figures and column 5, lines 43-55).

### *Response to Arguments*

13. Applicant's arguments filed 10/8/2004 have been fully considered but they are not persuasive.

The applicant asserts, "Statistically, introduction of a plurality of such pins or stitches must damage at least some of the fibers and, therefore cannot be "beside" the reinforcing fibers as presently claimed as that term is used herein" (emphasis added). The examiner respectfully disagrees. The applicant admits, statistically, the pins must damage at least some of the fibers. Therefore, the applicant admits, statistically, the pins must not damage at least some of the fibers. The claims require the presence of at least some pins disposed "beside" the fibers, the claims do not exclude the presence of some pins not disposed "beside" the fibers. As a result, at least some of the pins are disposed "beside" the fibers and the prior art reads on the current claims.

The applicant asserts that "a yarn" does not read on "a bundle of rods" because a rod is generally defined as a stick, wand, staff, etc. of finite length while yarn is considered continuous. The examiner respectfully disagrees. Although a yarn is considered to be continuous, a rod is not conventionally defined as having a finite length. Applicant's specification does not define a



Art Unit: 1771

rod as having a finite length. A yarn is a bundle of twisted threads wherein each thread can be considered a rod.

*Conclusion*

14. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

atp

*g-j 10/29/04*  
**ANDREW T. PIZALI**  
**PATENT EXAMINER**

  
**TERREL MORRIS**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**